



Remarks

Applicant wishes to thank the Examiner for pointing out that claims 5, 14, 15, 17, 18 and 20 would be allowable if rewritten in independent form including all of the limitations of the base claim and all intervening claims. Applicant's Preliminary Amendment filed on September 15, 1997 should not be entered.

I. Introduction

Claim 1 has been amended as indicated above to more clearly define Applicant's invention. Claims 5-9 have been amended to correct minor typographical errors and informalities. Support for the amendments to the claims can be found throughout the specification, and specifically support for the amendments to claim 1 can be found on pages 14-15 of the specification, page 7 of the summary, and in Figure 2.

Claims 10-21 have been cancelled. New claims 22-48 have been added to further define Applicant's invention. Pending claims 1-48 are believed to be allowable. No new matter has been introduced in this Amendment.

The following remarks are repeated in substance from an Amendment filed by Applicant on March 25, 1997 in the parent case (application serial number 08/679,273). As a result of the earlier Amendment, 37 claims were allowed in the parent case.

II. Claims 1-3, 8 and 9 are rejected under 35 USC §102(a)

A. Rejection of Record.

Claims 1-3, 8 and 9 are rejected under 35 U.S.C. §102(a) as being anticipated by U.S. Patent No. 5,482,023 (" '023") to *Hunt et al.*

B. The Novelty of Applicant's Invention is Not Disclosed by the Cited Reference.

Reconsideration is respectfully requested for the rejections of claims 1-3, 8 and 9 as anticipated by the '023 Patent in light of the amendments to claim 1, which render claim 1, and the claims that depend therefrom, allowable over the cited reference. As amended, the cited reference does not disclose the novelty of Applicant's claimed invention and the §102 rejection should be withdrawn.

B

Claim 1 is not anticipated by the '023 Patent because the '023 Patent does not disclose every element of the instant claimed invention. As Examiner notes, the '023 Patent discloses an engine cold start fuel control system having several of the elements recited in claim 1, including several heating elements as shown in Figure 12 of the '023 Patent.

In contrast to the '023 Patent disclosure, the heater elements in the invention as claimed are electrically independent and separated from one another such that they can be turned off and on at separate times. Correspondingly, the temperature of the heating chamber can be varied from one end to the other.

The separately controlled heating elements arrangement of the claimed invention is not disclosed or taught in the '023 Patent. Accordingly, Applicant's invention is patentable over the '023 Patent under 35 USC §102.

III. Claims 1, 4, 6 and 7 are rejected under 35 USC §103

A. Rejection of Record

Claims 1 and 4 are rejected under 35 USC §103 as being obvious over the '023 Patent in light of U.S. Patent No. 5,315,975 (the "Hattori Patent").

Claims 1 and 6-7 are rejected under 35 USC §103(a) as being unpatentable over the '023 Patent in light of U.S. Patent 5,322,043 (the "Shriner Patent").

B. The Novelty of Applicant's Invention is neither Disclosed nor Suggested by the Prior Art

Reconsideration is respectfully requested for the rejection of claims 1, 4, 6 and 7 as obvious over the prior art cited by the Examiner in light of the amendments to claim 1 which render the rejected claims allowable over the prior art and any combination thereof.

The obviousness rejections are based on various features found in other patents when combined with the '023 Patent. However, neither the '023 Patent nor the cited references (including any combination therefore) teach, disclose or suggest Applicant's heating chamber having separately controlled heater elements.

Applicant teaches, without any suggestion or incentive from the prior art, that each separate element is electrically isolated from the other, so that the current to each element can be independently controlled. In this manner, the

temperature of each element can be independently set so that, for example, the temperature of the second element can be hotter than the temperature of the first element and so on to have a gradually increasing temperature exposure for the passing air-fuel mixture. Alternatively, independent elements can be turned on while others remain off, or turned on or off at different instances of time. Varying the start of the separate heater elements will reduce the current spike when the heater unit is initially powered. In addition, some heater elements can remain off before engine start, to conserve energy when the battery's voltage is deemed inadequate for powering all of the heater elements and then cranking the engine. None of this is taught or suggested by the prior art.

In sum, the '023 Patent, even when combined with the prior art cited, does not render Applicant's invention, as defined by the amended claims herein, obvious under 35 USC §103 for the same reasons that the '023 Patent individually does not teach or suggest the novel features claimed by Applicant.

IV. New Claims 22-48

New independent claim 22 combines the elements of original claim 1 (without the plurality of heating element sections) and claims 4-5. Examiner noted in the Office Action of March 31, 1998 that original claim 5, if rewritten in an independent form, would be allowable. Accordingly, claim 22 (even without the heating elements) and claims 23-25 dependent thereon, are believed to be allowable.

New claims 26-36 are believed to be allowable over the prior art for the same reasons that amended claims 1-9 are allowable.

New claim 37 combines the elements of original claim 10 and claim 14. Examiner has noted in the Office Action that original claim 14, if rewritten in an independent form, would be allowable. Accordingly, claim 37 and claims 38-42 dependent thereon, are believed to be allowable.

New claim 43 combines the elements of original claim 10 and claim 17. Examiner has noted in the Office Action that original claim 17, if rewritten in an independent form, would be allowable. Accordingly, claim 43 and claims 44-48 dependent thereon, are believed to be allowable.

Conclusion

In view of the amendments and remarks above, Applicant respectfully submits that the application is in condition for allowance. Allowance at an early date of claims 1-48 is respectfully submitted.

If any outstanding issues remain, or if the Examiner has any suggestions for expediting allowance of this application, the Examiner is invited to contact John J. Sideris at the telephone number below.

The Examiner's attention to this matter is greatly appreciated.

Respectfully submitted,

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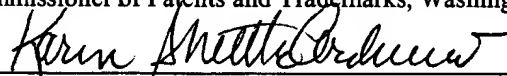
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